

103D CONGRESS
1ST SESSION

H. R. 2200

To authorize appropriations to the National Aeronautics and Space Administration for research and development, space flight, control, and data communications, construction of facilities, research and program management, and Inspector General, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MAY 20, 1993

Mr. BROWN of California (for himself, Mr. HALL, Mr. VOLKMER, Mr. TRAFICANT, Mr. BACCHUS of Florida, Mr. CRAMER, Ms. ESHOO, Mr. MCCURDY, and Mr. PETE GEREN of Texas) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To authorize appropriations to the National Aeronautics and Space Administration for research and development, space flight, control, and data communications, construction of facilities, research and program management, and Inspector General, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “National Aeronautics
5 and Space Administration Authorization Act, Fiscal Years
6 1994 and 1995”.

1 **SEC. 2. FINDINGS.**

2 The Congress finds and declares that—

3 (1) the civil space program has the potential to
4 contribute to the advancement of technologies criti-
5 cal to the competitiveness and productivity of United
6 States industry;

7 (2) the development of such technologies is a
8 valid purpose of the civil space program and should
9 be pursued as a direct objective;

10 (3) the reduction in international tensions and
11 the end of the Cold War provide an opportunity for
12 the National Aeronautics and Space Administration
13 to achieve a closer coordination with defense-related
14 agencies and, consistent with the National Aero-
15 nautics and Space Act of 1958, to reduce overlap
16 and duplication among Federal space programs and
17 to take greater advantage of other Federal space ca-
18 pabilities;

19 (4) the National Aeronautics and Space Admin-
20 istration should play an active role in preserving a
21 robust space industrial base and should seek to
22 strengthen incentives for industry to conduct re-
23 search and development for both Federal mission
24 needs and the diversification of space-related appli-
25 cations; and

(5) in the conduct of its space activities, the United States should employ the existing space assets and capabilities of the former Soviet Union on a selective basis when unique programmatic benefits are offered, and should encourage a collaboration between United States industry and the privatizing space organizations of the former Soviet Union in developing future space capabilities.

TITLE I—AUTHORIZATION OF APPROPRIATIONS

Subtitle A—Authorizations

SEC. 101. RESEARCH AND DEVELOPMENT.

(a) SPACE STATION FREEDOM.—

(1) AUTHORIZATION.—There are authorized to be appropriated to the National Aeronautics and Space Administration for “Research and Development” for the Space Station Freedom, \$1,900,000,000 for fiscal year 1994, \$1,900,000,000 for fiscal year 1995, \$1,900,000,000 for fiscal year 1996, \$1,900,000,000 for fiscal year 1997, \$1,900,000,000 for fiscal year 1998, \$1,900,000,000 for fiscal year 1999, and \$1,300,000,000 for fiscal year 2000.

1 (2) SCOPE OF PROGRAM.—The Space Station
2 Freedom shall be designed to provide the capability
3 for productive scientific and engineering research in
4 low Earth orbit, shall be capable of incorporating
5 advanced technologies over the operational life of the
6 Space Station for the purposes of increasing the pro-
7 ductivity of research and reducing the costs of oper-
8 ation, shall include a habitation module as part of
9 its permanently manned configuration, and shall be
10 developed in accordance with the international agree-
11 ments in place as of the date of enactment of this
12 Act.

13 (3) ADDITIONAL FOREIGN PARTICIPATION.—
14 The Space Station Freedom program shall, where
15 feasible, employ the existing space assets and capa-
16 bilities of the former Soviet Union on a selective
17 basis when such use will reduce the cost of develop-
18 ing and operating the Space Station Freedom to the
19 United States and its international partners. Any
20 proposed use of such assets and capabilities shall be
21 in accordance with the international agreements in
22 place as of the date of enactment of this Act.

23 (4) PROGRAM MANAGEMENT OFFICE.—The Na-
24 tional Aeronautics and Space Administration shall
25 maintain a strong, independent Space Station Pro-

1 gram Management Office with financial control of
2 the program budget at least through the date of the
3 First Element Launch, unless the Administrator of
4 the National Aeronautics and Space Administration
5 (in this Act referred to as the “Administrator”) cer-
6 tifies to the Congress that an alternative manage-
7 ment approach will save money and will not result
8 in increased annual funding requirements or sched-
9 ule delays.

10 (b) OTHER RESEARCH AND DEVELOPMENT.—There
11 are authorized to be appropriated to the National Aero-
12 nautics and Space Administration for “Research and De-
13 velopment” for—

14 (1) Technology Investment Program, estab-
15 lished under title II of this Act, \$22,000,000 for fis-
16 cal year 1994, and \$40,000,000 for fiscal year 1995,
17 none of which shall be available for administrative
18 expenses of the National Aeronautics and Space Ad-
19 ministration, except that no funds appropriated pur-
20 suant to this Act may be obligated for the establish-
21 ment of any Technology Research Institutes unless
22 otherwise specifically provided for by law;

23 (2) Space Transportation Capability Develop-
24 ment, \$716,200,000 for fiscal year 1994, and
25 \$792,300,000 for fiscal year 1995, of which

1 \$7,000,000 for fiscal year 1994 are authorized to
2 support the development of improvements in existing
3 expendable launch vehicles, and of which
4 \$59,000,000 for fiscal year 1995 are authorized to
5 support the development of advanced launch tech-
6 nologies and improvements in existing expendable
7 launch vehicles;

8 (3) Physics and Astronomy, \$1,074,700,000 for
9 fiscal year 1994, and \$1,147,300,000 for fiscal year
10 1995;

11 (4) Planetary Exploration, \$557,200,000 for
12 fiscal year 1994, and \$561,800,000 for fiscal year
13 1995;

14 (5) Life and Microgravity Sciences and Applica-
15 tions, \$426,000,000 for fiscal year 1994, and
16 \$485,700,000 for fiscal year 1995;

17 (6) Mission to Planet Earth—

18 (A) \$1,084,900,000 for fiscal year 1994, of
19 which \$5,000,000 are authorized for the devel-
20 opment of instrumentation for and flight of re-
21 motely piloted aircraft, and of which
22 \$10,000,000 may be provided for the Consor-
23 tium for International Earth Science Informa-
24 tion Network, except that no funds may be obli-
25 gated for the Consortium for International

1 Earth Science Information Network in excess of
2 \$10,000,000 in fiscal year 1994 unless an equal
3 amount of matching funding is provided from
4 non-Federal sources; and

5 (B) \$1,448,100,000 for fiscal year 1995;

6 (7) Space Research and Technology,
7 \$298,200,000 for fiscal year 1994, and
8 \$333,100,000 for fiscal year 1995;

9 (8) Commercial Programs, \$172,000,000 for
10 fiscal year 1994, and \$141,400,000 for fiscal year
11 1995;

12 (9) Aeronautics Research and Technology Pro-
13 grams—

14 (A) for Research Operations Support,
15 \$143,500,000 for fiscal year 1994, and
16 \$148,300,000 for fiscal year 1995;

17 (B) for Research and Technology Base ac-
18 tivities, \$448,300,000 for fiscal year 1994, and
19 \$433,900,000 for fiscal year 1995;

20 (C) for High-Speed Research,
21 \$187,200,000 for fiscal year 1994, and
22 \$236,300,000 for fiscal year 1995;

23 (D) for Advanced Subsonic Technology,
24 \$101,300,000 for fiscal year 1994, and
25 \$128,500,000 for fiscal year 1995, of which

1 \$5,000,000 for fiscal year 1994 and
2 \$13,000,000 for fiscal year 1995 shall be for
3 Short-Haul Aircraft, \$30,200,000 for fiscal
4 year 1994 and \$30,500,000 for fiscal year 1995
5 shall be for Noise Reduction, and \$11,500,000
6 for fiscal year 1994 and \$13,000,000 for fiscal
7 year 1995 shall be for Technology Integration
8 for Reducing Environmental Pollution;

9 (E) for Other Systems Technology Pro-
10 grams, \$140,400,000 for fiscal year 1994, and
11 \$168,000,000 for fiscal year 1995; and

12 (F) for the National Aero-Space Plane
13 Program, \$80,000,000 for fiscal year 1994, and
14 \$80,000,000 for fiscal year 1995;

15 (10) Safety, Reliability, and Quality Assurance,
16 \$35,300,000 for fiscal year 1994, and \$38,500,000
17 for fiscal year 1995;

18 (11) Academic Programs, \$74,500,000 for fis-
19 cal year 1994, and \$81,500,000 for fiscal year 1995;
20 and

21 (12) Tracking and Data Advanced Systems,
22 \$24,600,000 for fiscal year 1994, and \$25,100,000
23 for fiscal year 1995.

1 **SEC. 102. SPACE FLIGHT, CONTROL, AND DATA COMMU-**
2 **NICATIONS.**

3 There are authorized to be appropriated to the Na-
4 tional Aeronautics and Space Administration for “Space
5 Flight, Control, and Data Communications” for—

6 (1) Space Shuttle Production and Operational
7 Capability, \$919,200,000 for fiscal year 1994, and
8 \$943,500,000 for fiscal year 1995;

9 (2) Advanced Solid Rocket Motor,
10 \$270,400,000 for fiscal year 1994, and
11 \$288,800,000 for fiscal year 1995;

12 (3) Space Shuttle Operations, \$3,006,500,000
13 for fiscal year 1994, and \$2,810,400,000 for fiscal
14 year 1995;

15 (4) Space and Ground Networks, Communica-
16 tions, and Data Systems, \$820,500,000 for fiscal
17 year 1994, and \$964,600,000 for fiscal year 1995,
18 including procurement of Tracking and Data Relay
19 Satellites on a fixed-price basis using functional per-
20 formance specifications, and, to the extent prac-
21 ticable, seeking to incorporate potential improve-
22 ments to such Satellites that result in cost savings
23 or a greater probability of returning data; and

24 (5) Launch Services, \$300,300,000 for fiscal
25 year 1994, and \$313,700,000 for fiscal year 1995.

1 None of the funds appropriated pursuant to this section
2 shall be used to launch the Advanced X-ray Astrophysics
3 Facility on the Space Shuttle. By fiscal year 2003, the
4 combined annual cost for the production and operation of
5 the Space Shuttle program and the Space Station Free-
6 dom program shall not exceed, after adjustments for infla-
7 tion, \$4,325,000,000 in fiscal year 1992 dollars.

8 **SEC. 103. CONSTRUCTION OF FACILITIES.**

9 (a) FISCAL YEAR 1994.—There are authorized to be
10 appropriated to the National Aeronautics and Space Ad-
11 ministration for fiscal year 1994 for “Construction of Fa-
12 cilities”, including land acquisition, for—

13 (1) Construction of Space Station Freedom Fa-
14 cilities, \$25,000,000;

15 (2) Replacement of Mission Control Center Air
16 Handlers, Johnson Space Center, \$8,000,000;

17 (3) Replacement of Thermal Vacuum Helium
18 Refrigeration System, Johnson Space Center,
19 \$7,400,000;

20 (4) Rehabilitation of Electrical Distribution
21 System, Project Management Building, Johnson
22 Space Center, \$2,200,000;

23 (5) Modification of Launch Complex 39 Exte-
24 rior Utility Piping, Kennedy Space Center,
25 \$1,200,000;

1 (6) Refurbishment of Launch Complex 39 Cool-
2 ing System, Kennedy Space Center, \$4,000,000;

3 (7) Refurbishment of Launch Complex 39 Sec-
4 ondary Circuit Breakers, Kennedy Space Center,
5 \$3,300,000;

6 (8) Refurbishment of Vehicle Assembly Build-
7 ing/Pad Water Storage Tanks, Kennedy Space Cen-
8 ter, \$3,000,000;

9 (9) Rehabilitation of Industrial Area Fire
10 Alarm Reporting System, Kennedy Space Center,
11 \$4,900,000;

12 (10) Restoration of C-5 Substation, Launch
13 Complex 39 Area, Kennedy Space Center,
14 \$5,000,000;

15 (11) Restoration of Class III Landfill, Kennedy
16 Space Center, \$1,900,000;

17 (12) Restoration of High Pressure Air Com-
18 pressor System, Marshall Space Flight Center,
19 \$8,500,000;

20 (13) Restoration of Electrical Power System,
21 Marshall Space Flight Center, \$2,600,000;

22 (14) Repair of Decking and Roof, X-Ray and
23 Staging Facility, Michoud Assembly Facility,
24 \$1,500,000;

1 (15) Replacement of Cooling Tower and Boiler,
2 Michoud Assembly Facility, \$4,000,000;

3 (16) Restoration of Space Shuttle Main Engine
4 Text Complex High Pressure Industrial Water Sys-
5 tem, Stennis Space Center, \$2,300,000;

6 (17) Restoration of High Pressure Gas Storage
7 Capacity, Stennis Space Center, \$2,300,000;

8 (18) Restoration of Underground Communica-
9 tion Distribution System, Stennis Space Center,
10 \$3,800,000;

11 (19) Construction of Earth Systems Science
12 Building, Goddard Space Flight Center,
13 \$12,000,000;

14 (20) Replacement of Central Plant Steam and
15 Electrical Generation Equipment, Goddard Space
16 Flight Center, \$8,600,000;

17 (21) Restoration and Modernization of Chilled
18 Water System, Goddard Space Flight Center,
19 \$5,000,000;

20 (22) Restoration of Airfield, Wallops Flight Fa-
21 cility, \$5,200,000;

22 (23) Replacement of Chillers and Modification
23 of Related Systems, Various Buildings, Jet Propul-
24 sion Laboratory, \$2,900,000;

1 (24) Construction of Advanced Solid Rocket
2 Motor Facilities, Various Locations, \$32,600,000;

3 (25) Phase I Facility Studies, Requirements
4 Definition, Design, and Modification and Construc-
5 tion of National Aeronautics Facilities, Various Lo-
6 cations, \$74,000,000;

7 (26) Modifications for Composite Technology
8 Center, Lewis Research Center, \$27,000,000;

9 (27) National Transonic Facility Productivity
10 Enhancement, Langley Research Center,
11 \$60,000,000;

12 (28) Performance Improvements in 11-Foot
13 Wind Tunnel, Ames Research Center, \$20,000,000;

14 (29) Rehabilitation of Control Systems, Na-
15 tional Full-Scale Aerodynamics Complex, Ames Re-
16 search Center, \$2,100,000;

17 (30) Upgrade of Outdoor Aerodynamic Re-
18 search Facility, Ames Research Center, \$3,900,000;

19 (31) Modernization of the Unitary Plan Wind
20 Tunnel Complex, Ames Research Center,
21 \$25,000,000;

22 (32) Construction of EOSDIS Distributed Ac-
23 tive Archive Center, Langley Research Center,
24 \$8,000,000;

1 (33) Rehabilitation of Rocket Engine Test Fa-
2 cility, Lewis Research Center, \$12,500,000;

3 (34) Construction of 34-Meter Multifrequency
4 Antenna, Goldstone Facility, Jet Propulsion Labora-
5 tory, \$17,600,000;

6 (35) Repair of facilities at various locations, not
7 in excess of \$1,000,000 per project, \$36,000,000;

8 (36) Rehabilitation and modification of facilities
9 at various locations, not in excess of \$1,000,000 per
10 project, \$36,000,000;

11 (37) Minor construction of new facilities and
12 additions to existing facilities at various locations,
13 not in excess of \$750,000 per project, \$14,000,000;

14 (38) Facility Planning and Design,
15 \$27,000,000; and

16 (39) Environmental Compliance and Restora-
17 tion, \$50,000,000.

18 Notwithstanding paragraphs (1) through (39), the total
19 amount authorized to be appropriated under this sub-
20 section shall not exceed \$570,300,000.

21 (b) FISCAL YEAR 1995.—There are authorized to be
22 appropriated to the National Aeronautics and Space Ad-
23 ministration for fiscal year 1995 for “Construction of Fa-
24 cilities”, including land acquisition, \$422,200,000.

1 **SEC. 104. RESEARCH AND PROGRAM MANAGEMENT.**

2 There are authorized to be appropriated to the Na-
3 tional Aeronautics and Space Administration for “Re-
4 search and Program Management”, \$1,650,000,000 for
5 fiscal year 1994, and \$1,675,000,000 for fiscal year 1995.

6 **SEC. 105. INSPECTOR GENERAL.**

7 There are authorized to be appropriated to the Na-
8 tional Aeronautics and Space Administration for “Inspec-
9 tor General”, \$15,500,000 for fiscal year 1994, and
10 \$16,000,000 for fiscal year 1995.

11 **Subtitle B—Limitations and**
12 **Special Authority**

13 **SEC. 111. USE OF FUNDS FOR CERTAIN ITEMS AND GRANTS.**

14 (a) AUTHORIZED USES.—Appropriations authorized
15 under sections 101 and 102 may be used for—

16 (1) any items of a capital nature (other than
17 acquisition of land) which may be required at loca-
18 tions other than installations of the National Aero-
19 nautics and Space Administration for the perform-
20 ance of research and development contracts; and

21 (2) grants to institutions of higher education,
22 or to nonprofit organizations whose primary purpose
23 is the conduct of scientific research, for purchase or
24 construction of additional research facilities.

25 (b) VESTING OF TITLE; GRANT CONDITIONS.—Title
26 to facilities described in subsection (a)(2) shall be vested

1 in the United States unless the Administrator determines
2 that the national program of aeronautical and space activi-
3 ties will best be served by vesting title in the grantee insti-
4 tution or organization or the Federal contribution to such
5 purchase or construction is not substantial enough to war-
6 rant vesting title in the United States. Each grant under
7 subsection (a)(2) shall be made under such conditions as
8 the Administrator shall determine to be required to ensure
9 that the United States will receive therefrom benefits ade-
10 quate to justify the making of that grant.

11 (c) LIMITATION.—None of the funds appropriated
12 under sections 101 and 102 may be used in accordance
13 with this section for the construction of any facility, the
14 estimated cost of which, including collateral equipment,
15 exceeds \$750,000, unless 30 days have passed after the
16 Administrator has notified the Committee on Commerce,
17 Science, and Transportation of the Senate and the Com-
18 mittee on Science, Space, and Technology of the House
19 of Representatives of the nature, location, and estimated
20 cost of such facility.

21 **SEC. 112. AVAILABILITY OF APPROPRIATED AMOUNTS.**

22 Appropriations authorized under sections 101, 102,
23 and 103 may remain available until expended. Contracts
24 may be entered into with funds appropriated under section
25 104 or 105 for training, investigations, and costs associ-

1 ated with personnel relocation and for other services pro-
2 vided during the fiscal year following the fiscal year for
3 which funds are appropriated.

4 **SEC. 113. LIMITED USE OF FUNDS.**

5 (a) USE FOR SCIENTIFIC CONSULTATIONS OR EX-
6 TRAORDINARY EXPENSES.—Appropriations authorized
7 under section 101 may be used, but not to exceed \$35,000
8 per fiscal year, for scientific consultations or extraordinary
9 expenses upon the authority of the Administrator, and the
10 Administrator's determination shall be final and conclu-
11 sive upon the accounting officers of the Government.

12 (b) USE FOR FACILITIES.—(1) Except as provided in
13 paragraph (3), appropriations authorized under sections
14 101 and 102 may be used for the construction of new fa-
15 cilities and additions to, repair of, rehabilitation of, or
16 modification of existing facilities, except that the cost of
17 each such project, including collateral equipment, shall not
18 exceed \$200,000 per fiscal year.

19 (2) Appropriations authorized under sections 101 and
20 102 may be used for unforeseen programmatic facility
21 project needs, other than those described in paragraph (1),
22 except that the cost of each such project, including collat-
23 eral equipment, shall not exceed \$750,000 per fiscal year.

24 (3) Appropriations authorized under section 101 may
25 be used for repair, rehabilitation, or modification of facili-

1 ties controlled by the General Services Administration, ex-
2 cept that the cost of each such project, including collateral
3 equipment, shall not exceed \$500,000 per fiscal year.

4 **SEC. 114. REPROGRAMMING FOR CONSTRUCTION OF FA-**
5 **CILITIES.**

6 Appropriations authorized under any paragraph of
7 section 103—

8 (1) in the discretion of the Administrator may
9 be varied upward by 10 percent; or

10 (2) after the expiration of 30 days following a
11 report by the Administrator to the Committee on
12 Commerce, Science, and Transportation of the Sen-
13 ate and the Committee on Science, Space, and Tech-
14 nology of the House of Representatives on the cir-
15 cumstances of such action, may be varied upward by
16 25 percent, to meet unusual cost variations.

17 The total amount authorized to be appropriated under sec-
18 tion 103 shall not be increased as a result of actions au-
19 thorized under paragraphs (1) and (2) of this section.

20 **SEC. 115. SPECIAL REPROGRAMMING AUTHORITY FOR**
21 **CONSTRUCTION OF FACILITIES.**

22 Where the Administrator determines that new devel-
23 opments or scientific or engineering changes in the na-
24 tional program of aeronautical and space activities have
25 occurred; and that such changes require the use of addi-

1 tional funds for the purposes of construction, expansion,
2 or modification of facilities at any location; and that defer-
3 ral of such action until the enactment of the next National
4 Aeronautics and Space Administration Authorization Act
5 would be inconsistent with the interest of the Nation in
6 aeronautical and space activities; the Administrator may
7 transfer not to exceed one-half of one percent of the funds
8 appropriated pursuant to sections 101 and 102 to the ap-
9 propriation under section 103 for such purposes. The Ad-
10 ministrator may also use up to \$10,000,000 of the
11 amounts authorized under section 103 for such purposes.
12 The funds so made available pursuant to this section may
13 be expended to acquire, construct, convert, rehabilitate, or
14 install permanent or temporary public works, including
15 land acquisition, site preparation, appurtenances, utilities,
16 and equipment. No such funds may be obligated until a
17 period of 30 days has passed after the Administrator has
18 transmitted to the Committee on Commerce, Science, and
19 Transportation of the Senate and the Committee on
20 Science, Space, and Technology of the House of Rep-
21 resentatives a written report describing the nature of the
22 construction, its costs, and the reasons therefor.

23 **SEC. 116. CONSIDERATION BY COMMITTEES.**

24 Notwithstanding any other provision of this Act—

1 (1) no amount appropriated pursuant to this
2 Act may be used for any program deleted by the
3 Congress from requests as originally made by the
4 President for the National Aeronautics and Space
5 Administration to either the Committee on Com-
6 merce, Science, and Transportation of the Senate or
7 the Committee on Science, Space, and Technology of
8 the House of Representatives;

9 (2) no amount appropriated pursuant to this
10 Act may be used for any program in excess of the
11 amount actually authorized for the particular pro-
12 gram by section 101, 102, or 104; and

13 (3) no amount appropriated pursuant to this
14 Act may be used for any program which has not
15 been presented to either such committee,
16 unless a period of 30 days has passed after the receipt,
17 by each such committee, of notice given by the Adminis-
18 trator containing a full and complete statement of the ac-
19 tion proposed to be taken and the facts and circumstances
20 relied upon in support of such proposed action. The Na-
21 tional Aeronautics and Space Administration shall keep
22 the Committee on Commerce, Science, and Transportation
23 of the Senate and the Committee on Science, Space, and
24 Technology of the House of Representatives fully and cur-
25 rently informed with respect to all activities and respon-

1 sibilities within the jurisdiction of those committees. Any
2 Federal department, agency, or independent establishment
3 shall furnish any information requested by either commit-
4 tee relating to any such activity or responsibility.

5 **SEC. 117. LIMITATION ON OBLIGATION OF UNAUTHORIZED**
6 **APPROPRIATIONS.**

7 (a) REPORT TO CONGRESS.—Not later than 30 days
8 after the later of the date of enactment of an Act making
9 appropriations to the National Aeronautics and Space Ad-
10 ministration for fiscal year 1994 or 1995 and the date
11 of enactment of this Act, the Administrator shall submit
12 a report to Congress and to the Comptroller General which
13 specifies—

14 (1) the portion of such appropriations which are
15 for programs, projects, or activities not specifically
16 authorized under subtitle A of this title, or which
17 are in excess of amounts authorized for the relevant
18 program, project, or activity under this Act; and

19 (2) the portion of such appropriations which are
20 specifically authorized under this Act.

21 (b) FEDERAL REGISTER NOTICE.—The Adminis-
22 trator shall, coincident with the submission of the report
23 required by subsection (a), publish in the Federal Register
24 a notice of all programs, projects, or activities not specifi-
25 cally authorized under Act, and solicit public comment

1 thereon regarding the impact of any such obligations on
2 the conduct and effectiveness of the national aeronautics
3 and space program.

4 (c) LIMITATION.—Notwithstanding any other provi-
5 sion of this Act, no funds may be obligated for any pro-
6 grams, projects, or activities of the National Aeronautics
7 and Space Administration for fiscal years 1994 and 1995
8 not specifically authorized under this Act until 30 days
9 have passed after the close of the public comment period
10 contained in the notice required in subsection (b).

11 **TITLE II—THE ROLE OF THE NA-**
12 **TIONAL AERONAUTICS AND**
13 **SPACE ADMINISTRATION IN**
14 **TECHNOLOGY INVESTMENT**

15 **SEC. 201. POLICY.**

16 It is the policy of the United States that—

17 (1) improving the competitive capabilities of
18 United States industry shall be a fundamental goal
19 of the research and development activities of the Na-
20 tional Aeronautics and Space Administration;

21 (2) the Administrator, in planning for national
22 programs in space science and applications, aero-
23 nautical research, space flight, advanced concepts
24 and technology, and exploration, shall carry out
25 technology investment initiatives designed to foster

1 competitiveness of United States industry in global
2 markets;

3 (3) the Administrator shall work closely with
4 other Federal agencies, States, and local govern-
5 ments to coordinate and execute the technology in-
6 vestment activities of the National Aeronautics and
7 Space Administration;

8 (4) opportunities for investment in critical tech-
9 nologies and other technologies that advance the
10 competitiveness of United States industry shall be
11 identified in concert with United States industry;
12 and

13 (5) the Administrator shall encourage the es-
14 tablishment of industry-led consortia to maximize
15 the opportunities described in paragraph (4).

16 **SEC. 202. TECHNOLOGY INVESTMENT PROGRAM.**

17 (a) COMPETITIVE PROGRAM.—The Administrator
18 shall establish a competitive program under this section—

19 (1) to advance the competitiveness of United
20 States industry;

21 (2) to encourage industry-led consortia to de-
22 velop critical technologies, and other technologies
23 that advance the competitiveness of United States
24 industry, that have been identified by industry; and

1 (3) to encourage participation by industrial par-
2 ticipants not part of the traditional Federal con-
3 tracting base.

4 (b) ELIGIBLE PARTICIPANTS.—

5 (1) GENERAL RULE.—Except as provided in
6 paragraph (2), only consortia or cooperative ar-
7 rangements among 2 or more eligible firms, or a
8 nonprofit research organization established by 2 or
9 more eligible firms, are eligible participants under
10 this section. Such eligible participants may include
11 participation by Federal laboratories, institutions of
12 higher education, State agencies, and other entities.

13 (2) EXCEPTION.—A single eligible firm may be
14 an eligible participant under this section only if the
15 Administrator finds that to select such firm is con-
16 sistent with the policy stated in section 201 and is
17 necessary to serve the purposes of the program es-
18 tablished under this section.

19 (c) CRITERIA.—In selecting from among applicants
20 for financial assistance under this section, the Adminis-
21 trator shall consider—

22 (1) the potential of the proposed project to ad-
23 vance critical technologies and other technologies
24 that enhance the competitiveness of United States
25 industry in global markets;

1 (2) the application's scientific and technical
2 merit;

3 (3) the extent of funding provided by industry;

4 (4) the potential for commercial success of the
5 technologies in nongovernmental markets;

6 (5) the likelihood that the goals and objectives
7 of the proposed application will not be achieved with-
8 out financial assistance under this section; and

9 (6) such other criteria as the Administrator
10 considers appropriate.

11 (d) INDUSTRIAL CONTRIBUTION.—The Adminis-
12 trator shall ensure that, to the maximum extent prac-
13 ticable, taking into account the size and nature of eligible
14 firms, the amount of the funds provided by the Federal
15 Government under this section does not exceed the total
16 amount provided by non-Federal participants for any one
17 application. The Administrator shall ensure that not less
18 than 20 percent of total funding for any project for which
19 financial assistance is made available under this section
20 is provided by industry.

21 (e) FINANCING MECHANISMS.—The Administrator
22 shall make full use of the various authorities available
23 under section 203(c)(5) of the National Aeronautics and
24 Space Act of 1958 to carry out this section, especially

1 when applied to eligible firms which are not part of the
2 traditional Federal contracting base.

3 **SEC. 203. COORDINATION WITH EXISTING PROGRAMS.**

4 The Administrator shall coordinate existing activities
5 within the National Aeronautics and Space Administration
6 created to promote and enhance the competitiveness of
7 United States industry, including the Small Business In-
8 novation Research Program and Independent Research
9 and Development activities conducted by industry, with
10 the technology investment activities established under this
11 title. The Administrator shall coordinate such technology
12 investment activities with existing programs of the De-
13 partment of Commerce, the Department of Defense, the
14 Department of Energy, and other Federal agencies to
15 maximize the United States investment in technology ad-
16 vancements.

17 **SEC. 204. REPORT TO CONGRESS.**

18 The Administrator shall assess the technology invest-
19 ment activities established under this title, and shall sub-
20 mit a report to Congress on the results of such activities
21 to accompany the President's budget request for fiscal
22 year 1998.

23 **SEC. 205. DEFINITIONS.**

24 For the purposes of this title—

1 (1) the term “critical technologies” means tech-
2 nologies identified as critical technologies pursuant
3 to section 603(d) of the National Science and Tech-
4 nology Policy, Organization, and Priorities Act of
5 1976 (42 U.S.C. 6683(d));

6 (2) the term “eligible firm” means a business
7 entity—

8 (A) that conducts a significant level of its
9 research, development, engineering, and manu-
10 facturing activities in the United States;

11 (B) the majority ownership or control of
12 which is by United States citizens; or

13 (C) with a parent company that is incor-
14 porated in a country, the government of
15 which—

16 (i) permits the participation of firms
17 incorporated in the United States in re-
18 search and development consortia to which
19 the government of that country provides
20 funding directly or indirectly through
21 international organizations; and

22 (ii) affords adequate and effective pro-
23 tection for the intellectual property rights
24 of firms incorporated in the United States;

1 (3) the term “Federal laboratory” has the
2 meaning given such term in section 4(6) of the Ste-
3 venson-Wydler Technology Innovation Act of 1980;
4 and

5 (4) the term “United States” means the several
6 States, the District of Columbia, the Commonwealth
7 of Puerto Rico, the Virgin Islands, Guam, American
8 Samoa, the Commonwealth of the Northern Mariana
9 Islands, and any other territory or possession of the
10 United States.

11 **TITLE III—MISCELLANEOUS**
12 **PROVISIONS RELATING TO**
13 **SPACE ACTIVITIES**

14 **SEC. 301. TRANSMISSION OF BUDGET ESTIMATES.**

15 The Administrator shall, at the time of submission
16 of the President’s annual budget request for every fiscal
17 year, transmit to the Congress—

18 (1) a five-year budget detailing the estimated
19 development costs for each individual program under
20 the jurisdiction of the National Aeronautics and
21 Space Administration for which development costs
22 are expected to exceed \$200,000,000; and

23 (2) an estimate of the life-cycle costs associated
24 with each such program.

1 **SEC. 302. COMMERCIAL SPACE LAUNCH ACT AMENDMENTS.**

2 (a) AMENDMENTS.—The Commercial Space Launch
3 Act (49 U.S.C. App. 2601 et seq.) is amended—

4 (1) in section 4—

5 (A) by inserting “from Earth” after “if
6 any,” in paragraph (2);

7 (B) by redesignating paragraphs (9)
8 through (12) as paragraphs (11) through (14),
9 respectively; and

10 (C) by inserting after paragraph (8) the
11 following new paragraphs:

12 “(9) ‘reenter’ and ‘reentry’ mean to return pur-
13 posefully, or attempt to return, a reentry vehicle and
14 payload, if any, from Earth orbit or outer space to
15 Earth;

16 “(10) ‘reentry vehicle’ means any vehicle de-
17 signed to return from Earth orbit or outer space to
18 Earth substantially intact;”;

19 (2) in section 6(a), by inserting “, or reenter a
20 reentry vehicle,” after “operate a launch site” each
21 place it appears;

22 (3) in section 6(a)(2) and (3), by striking “sec-
23 tion 4(11)” each place it appears and inserting in
24 lieu thereof “section 4(12)”;

25 (4) in section 6(a)(3)(A), by inserting “or re-
26 entry” after “such launch or operation”;

1 (5) in section 6(a)(3), by inserting “, or reentry
2 of a reentry vehicle,” after “operation of a launch
3 site” each place it appears;

4 (6) in section 6(b)(1)—

5 (A) by striking “launch license” and in-
6 serting in lieu thereof “license”;

7 (B) by inserting “or reenter” after “shall
8 not launch”;

9 (C) by inserting “or reentry” after “relate
10 to the launch”; and

11 (D) by inserting “or reentered” after “to
12 be launched”;

13 (7) in section 6(b)(2)—

14 (A) by inserting “or reentry” after “pre-
15 vent the launch”;

16 (B) by striking “holder of a launch li-
17 cense” and inserting in lieu thereof “licensee”;
18 and

19 (C) by inserting “or reentry” after “deter-
20 mines that the launch”;

21 (8) in section 6(c)(1), by inserting “or reentry
22 of a reentry vehicle” after “operation of a launch
23 site”;

1 (9) in section 7, by striking “both” and insert-
2 ing in lieu thereof “for reentering one or more re-
3 entry vehicles”;

4 (10) in sections 8(a), 9(b), 11(a), 11(b),
5 12(a)(2)(B), and 12(b), by inserting “, or reentry of
6 a reentry vehicle,” after “operation of a launch site”
7 each place it appears;

8 (11) in section 8(b), by inserting “and the re-
9 entry of reentry vehicles,” after “operation of launch
10 sites,”;

11 (12) in section 11(a), by inserting “or reentry”
12 after “launch or operation”;

13 (13) in section 12(a)(1), by inserting “or re-
14 entry” after “prevent the launch”;

15 (14) in section 12(b), by inserting “or reentry”
16 after “prevent the launch”;

17 (15) in section 14(a)(1)—

18 (A) by inserting “or reentry site” after
19 “observers at any launch site”; and

20 (B) by inserting “or reentry vehicle” after
21 “assembly of a launch vehicle”;

22 (16) in section 15(b)(4)(A)—

23 (A) by inserting “and reentries” after “en-
24 sure that the launches”;

1 (B) by inserting “or reentry date commit-
2 ment” after “launch date commitment”;

3 (C) by inserting “or reentry” after “ob-
4 tained for a launch”;

5 (D) by inserting “, reentry sites,” after
6 “United States launch sites”;

7 (E) by inserting “or reentry site” after
8 “access to a launch site”;

9 (F) by inserting “, or services related to a
10 reentry,” after “amount for launch services”;
11 and

12 (G) by inserting “or reentry” after “the
13 scheduled launch”;

14 (17) in section 15(b)(4)(B), by inserting “or re-
15 entry” after “prompt launching”;

16 (18) in section 15(c), by inserting “or reentry”
17 after “launch site”;

18 (19) in section 16(a)(1)(A) and (B), by insert-
19 ing “or reentry” after “any particular launch” each
20 place it appears;

21 (20) in section 16(a)(1)(C) and (D), by insert-
22 ing “or a reentry” after “launch services” each place
23 it appears;

24 (21) in section 16(a)(2), by inserting “or re-
25 entry” after “launch services”;

1 (22) in section 16(b)(1) and (4) (A) and (B),
2 by inserting “or reentry” after “particular launch”
3 each place it appears;

4 (23) in section 17(b)(2)(A)—

5 (A) by inserting “reentry site,” after
6 “launch site,”; and

7 (B) by inserting “or reentry vehicle” after
8 “site of a launch vehicle”;

9 (24) in section 21(a), by inserting “and re-
10 entry” after “approval of space launch”;

11 (25) in section 21(b)—

12 (A) by inserting “, reentry vehicle,” after
13 “A launch vehicle”; and

14 (B) by inserting “or reentry” after “the
15 launching”;

16 (26) in section 21(c)(1)—

17 (A) by striking “or” in subparagraph (B);

18 (B) by redesignating subparagraph (C) as
19 subparagraph (D); and

20 (C) by inserting after subparagraph (B)
21 the following new subparagraph:

22 “(C) reentry of a reentry vehicle, or”;

23 (27) in section 21(c)(2), by inserting “reentry,”
24 after “launch,”;

25 (28) in section 22(a)—

1 (A) by striking “ending after the date of
2 enactment of this Act and before October 1,
3 1989”; and

4 (B) by inserting “and reentries” after
5 “further commercial launches”; and

6 (29) in section 24, by adding after paragraph
7 (2) the following:

8 “There are authorized to be appropriated to the Secretary
9 \$4,467,000 to carry out this Act for fiscal year 1994.”.

10 (b) REPORT TO CONGRESS.—The Secretary of
11 Transportation shall submit to Congress an annual report
12 to accompany the President’s budget request which re-
13 views the performance of the regulatory activities and the
14 effectiveness of the Office of Commercial Space Transpor-
15 tation.

16 **SEC. 303. OFFICE OF SPACE COMMERCE AUTHORIZATION.**

17 (a) ROLE OF THE OFFICE OF SPACE COMMERCE.—
18 The Office of Space Commerce of the Department of Com-
19 merce shall be responsible for the development and coordi-
20 nation of all policy recommendations and activities per-
21 taining to commercial activities in space except those func-
22 tions and activities explicitly authorized in statute to other
23 Federal agencies. In carrying out this responsibility, such
24 Office shall consult with other Federal agencies as appro-
25 priate, including the Department of Transportation, the

1 National Aeronautics and Space Administration, the De-
2 partment of Defense, the Department of State, and the
3 Office of the United States Trade Representative.

4 (b) AUTHORIZATION OF APPROPRIATIONS.—In order
5 to carry out this section, there are authorized to be appro-
6 priated to the Secretary of Commerce for the Office of
7 Space Commerce, \$538,000 for fiscal year 1994.

8 **SEC. 304. USE OF DOMESTIC PRODUCTS.**

9 (a) GENERAL RULE.—Except as provided in sub-
10 section (b), the Administrator shall ensure that procure-
11 ments are conducted in compliance with sections 2
12 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a
13 through 10c, popularly known as the “Buy American
14 Act”).

15 (b) LIMITATIONS.—This section shall apply only to
16 procurements made for which—

17 (1) amounts are authorized by this Act to be
18 made available; and

19 (2) solicitations for bids are issued after the date
20 of enactment of this Act.

21 (c) INAPPLICABILITY IN CASE OF VIOLATION OF
22 INTERNATIONAL AGREEMENT.—This section shall not
23 apply to the extent that the United States Trade Rep-
24 resentative determines that a procurement described in
25 subsection (b) would be in violation of the General Agree-

1 ment on Tariffs and Trade or an international agreement
2 to which the United States is a party.

3 **SEC. 305. REQUIREMENT FOR INDEPENDENT COST**
4 **ANALYSIS.**

5 The Chief Financial Officer for the National Aero-
6 nautics and Space Administration shall be responsible for
7 conducting independent cost analyses of all new projects
8 estimated to cost more than \$5,000,000 and shall report
9 the results annually to Congress at the time of the submis-
10 sion of the President's budget request. In developing cost
11 accounting and reporting standards for carrying out this
12 section, the Chief Financial Officer shall, to the extent
13 practicable and consistent with other laws, solicit the ad-
14 vice of expertise outside of the National Aeronautics and
15 Space Administration.

16 **SEC. 306. GLOBAL CHANGE DATA AND INFORMATION**
17 **SYSTEM.**

18 Title I of the Global Change Research Act of 1990
19 (15 U.S.C. 2931 et seq.) is amended by adding at the end
20 the following new section:

21 **“SEC. 109. GLOBAL CHANGE DATA AND INFORMATION**
22 **SYSTEM.**

23 “(a) The National Aeronautics and Space Adminis-
24 tration, in coordination with other agencies that belong to
25 the Committee on Earth and Environmental Sciences,

1 shall establish the requirements and architecture for, de-
2 sign, and develop a Global Change Data and Information
3 System that shall serve as the system to process, archive,
4 and distribute data generated by the Global Change Re-
5 search Program.

6 “(b) The National Aeronautics and Space Adminis-
7 tration shall design the Global Change Data and Informa-
8 tion System—

9 “(1) so that other Federal agencies may con-
10 nect data centers operated by such agencies to such
11 System; and

12 “(2) so as to minimize, to the extent prac-
13 ticable, the cost of connecting such data centers.

14 “(c) Each agency involved in the Global Change Re-
15 search Program shall retain the responsibility to establish
16 and operate Global Change Data and Information System
17 data centers to process, archive, and distribute data gen-
18 erated by such agency’s programs. Agencies may agree to
19 assume the responsibility for processing, archiving, or dis-
20 tributing data generated by other agencies.”.

21 **SEC. 307. ACCESS TO CLASSIFIED DATA FOR GLOBAL**
22 **CHANGE RESEARCH.**

23 The Committee on Earth and Environmental
24 Sciences shall develop and submit to the Congress within
25 one year after the date of enactment of this Act a plan

1 for providing access to data from classified archives and
2 systems for global change research. The plan shall—

3 (1) to the extent consistent with classification
4 restrictions, identify what data from classified ar-
5 chives and systems may be valuable and available for
6 global change research;

7 (2) determine whether the Global Change Data
8 and Information System or other means should be
9 used to provide access to such data for the scientific
10 community; and

11 (3) identify what agencies should be responsible
12 for particular parts of such classified data and any
13 data centers needed to process, archive, and distrib-
14 ute such data.

15 **SEC. 308. ORBITAL DEBRIS.**

16 The Office of Science and Technology Policy, in co-
17 ordination with the National Aeronautics and Space Ad-
18 ministration, the Department of Defense, the Department
19 of State, and other agencies as appropriate, shall submit
20 a plan to Congress within one year after the date of enact-
21 ment of this Act for the control of orbital debris. The plan
22 shall include proposed launch vehicle and spacecraft de-
23 sign standards and operational procedures to minimize the
24 creation of new debris. The plan shall propose a schedule
25 for the incorporation of the standards into all United

1 States civil, military, and commercial space activities. Fi-
2 nally, the plan shall include a schedule for the development
3 of an international agreement on the control of orbital de-
4bris.

5 **SEC. 309. NATIONAL AERONAUTICS AND SPACE ACT OF 1958**

6 **AMENDMENTS.**

7 (a) POLICY AND PURPOSE.—Section 102 of the Na-
8 tional Aeronautics and Space Act of 1958 (42 U.S.C.
9 2451) is amended—

10 (1) by striking subsections (e) and (f) and in-
11serting in lieu thereof the following:

12 “(e) The Congress declares that the general welfare
13 of the United States requires that the unique competence
14 in scientific and engineering systems of the National Aero-
15 nautics and Space Administration also be directed toward
16 the development of technologies critical to economic
17 growth, competitiveness, and productivity.”;

18 (2) by redesignating subsections (g) and (h) as
19 subsections (f) and (g), respectively; and

20 (3) in subsection (g), as so redesignated, by
21 striking “(f), and (g)” and inserting in lieu thereof
22 “and (f)”.

23 (b) REPORTS TO CONGRESS.—Section 206(a) of the
24 National Aeronautics and Space Act of 1958 (42 U.S.C.

1 2476(a)) is amended by striking “calendar” and inserting
2 in lieu thereof “fiscal”.

3 **SEC. 310. COMPARATIVE ANALYSIS OF UNITED STATES AND**
4 **FOREIGN EXPENDABLE SPACE LAUNCH**
5 **SYSTEMS.**

6 The National Aeronautics and Space Administration
7 shall conduct a comprehensive study of the differences be-
8 tween existing United States and foreign expendable space
9 launch vehicles. This study shall determine specific dif-
10 ferences in the design, manufacture, processing, and over-
11 all management and infrastructure of current United
12 States and foreign expendable space launch vehicles. The
13 study shall also determine the approximate effect of these
14 differences on the relative cost, reliability, and operational
15 efficiency of such space launch systems. This study shall
16 be conducted in consultation with the Department of De-
17 fense and, as appropriate, other Federal agencies, United
18 States industries, and academic institutions. The results
19 of this study shall be submitted to the Congress no later
20 than October 1, 1994.

21 **SEC. 311. UNIVERSITY INNOVATIVE RESEARCH PROGRAM**
22 **STUDY.**

23 (a) FINDINGS.—The Congress finds that—

24 (1) universities offer a significant resource for
25 the conduct of innovative scientific and technological

1 research to advance the National Aeronautics and
2 Space Administration's mission;

3 (2) the National Aeronautics and Space Admin-
4 istration should act to broaden the foundation of its
5 research base by increasing the direct involvement of
6 university research laboratories in the development
7 of technology for space science;

8 (3) the National Aeronautics and Space Admin-
9 istration should commit to strengthening university
10 research programs in technology beyond contracting
11 with universities for services in support of specific
12 programs; and

13 (4) the National Aeronautics and Space Admin-
14 istration should develop mechanisms to foster inno-
15 vative technological research at universities that do
16 not participate in the University Space Engineering
17 Research Centers.

18 (b) STUDY.—The Administrator shall undertake a
19 study of the feasibility and potential implementation of a
20 University Innovative Research Program which—

21 (1) promotes technological innovation in the
22 United States by using the Nation's universities to
23 help meet the National Aeronautics and Space Ad-
24 ministration's research and development needs, by
25 stimulating technology transfer between universities

1 and industry, and by encouraging participation by
2 minority and disadvantaged persons in technological
3 innovation;

4 (2) is modeled on the Small Business Innova-
5 tion Research Program;

6 (3) avoids duplication of existing National Aero-
7 nautics and Space Administration programs with the
8 universities; and

9 (4) derives funding from the Space Research
10 and Technology program.

11 (c) COMPLETION.—The study required by subsection
12 (b) shall be completed and its results submitted to the
13 Congress within one year after the date of enactment of
14 this Act.

15 (d) ADVICE.—In carrying out the study required by
16 subsection (b), the Administrator shall seek the advice of
17 the National Aeronautics and Space Administration Advi-
18 sory Council, the National Research Council's Aeronautics
19 and Space Engineering Board and Space Studies Board,
20 and other organizations as appropriate.

21 **SEC. 312. GEOGRAPHICAL DISTRIBUTION.**

22 The National Aeronautics and Space Administration
23 shall give consideration to geographical distribution of its
24 research and development funds whenever feasible.

1 **TITLE IV—AERONAUTICS**
2 **RESEARCH AND TECHNOLOGY**

3 **SEC. 401. FINDINGS.**

4 The Congress finds that—

5 (1) the aerospace industry makes a major con-
6 tribution to the economy of the United States, ac-
7 counting for the largest positive trade balance of any
8 United States industry (more than \$28,000,000,000
9 in 1992), and providing over 1,000,000 high-value
10 jobs;

11 (2) the international market share of the Unit-
12 ed States aerospace industry has steadily eroded due
13 to competition from foreign consortia that receive
14 substantial direct subsidies from their governments;

15 (3) the United States aerospace industry is fur-
16 ther negatively impacted by reduced investment in
17 national defense;

18 (4) the continued competitiveness of the United
19 States aerospace industry can be significantly aided
20 by an enhanced Federal investment in technology
21 base research and development in aeronautics;

22 (5) maintaining state-of-the-art experimental
23 facilities is a key element of Federal investment in
24 aeronautics research and development;

1 (6) the long-term contribution of advances in
2 aeronautics to the economy and society will rely on
3 a continued commitment to pioneering research and
4 development such as the National Aero-Space Plane;
5 and

6 (7) the National Aero-Space Plane program
7 should explore the possibility of collaboration with
8 other nations for opportunities that would offer
9 unique programmatic benefits without compromising
10 the strategic advantage to the United States.

11 **SEC. 402. DEFINITION.**

12 For purposes of this title, the term “independent or-
13 ganization” means an organization that does not receive
14 significant funding or support from the National Aero-
15 nautics and Space Administration, other than under sec-
16 tions 403, 404, and 406.

17 **SEC. 403. INDEPENDENT PERFORMANCE REVIEW.**

18 (a) PLAN.—The Administrator shall provide for the
19 development of a plan establishing criteria, procedures,
20 and milestones for the evaluation, by an independent orga-
21 nization, of advances made in fundamental aeronautics re-
22 search and development and the progress made by the aer-
23 onautics programs of the National Aeronautics and Space
24 Administration in achieving their goals. Such plan shall
25 be developed by an independent organization in consulta-

1 tion with the Administrator. The plan shall also describe
2 criteria and procedures for terminating National Aero-
3 nautics and Space Administration programs that are not
4 making acceptable progress toward their goals. The Ad-
5 ministrator shall submit a report describing such plan to
6 the Congress within 6 months after the date of the enact-
7 ment of this Act.

8 (b) ANNUAL REPORT.—Beginning in the first year
9 after submission of the plan under subsection (a), at the
10 time of the President’s annual budget request to Congress,
11 the Administrator shall submit to the Congress an annual
12 report on the results of an evaluation, conducted by an
13 independent organization, of the progress made by the Na-
14 tional Aeronautics and Space Administration in advancing
15 aeronautics and achieving the goals of aeronautics pro-
16 grams. Such evaluation shall be conducted using the cri-
17 teria, procedures, and milestones established under the
18 plan required by subsection (a).

19 **SEC. 404. TECHNOLOGY TRANSFER REVIEW.**

20 (a) PLAN.—The Administrator shall provide for the
21 development of a plan establishing criteria and procedures
22 for the evaluation, by an independent organization, of the
23 effectiveness of technology transfer from the National Aer-
24 onautics and Space Administration’s aeronautics pro-
25 grams to industry and other public organizations. Such

1 plan shall be developed by an independent organization in
2 consultation with the Administrator. The plan shall in-
3 clude clear, quantitative measures of the success of such
4 technology transfer activities. The Administrator shall
5 submit a report describing such plan to the Congress with-
6 in 6 months after the date of the enactment of this Act.

7 (b) ANNUAL REPORT.—Beginning in the first year
8 after submission of the plan under subsection (a), at the
9 time of the President’s annual budget request to Congress,
10 the Administrator shall submit to the Congress an annual
11 report on the results of an evaluation, conducted by an
12 independent organization, of the effectiveness of the Na-
13 tional Aeronautics and Space Administration’s technology
14 transfer programs. Such evaluation shall be conducted
15 using the criteria and procedures established under the
16 plan required by subsection (a).

17 **SEC. 405. JOINT AERONAUTICAL RESEARCH AND DEVELOP-**
18 **MENT PROGRAM.**

19 (a) ESTABLISHMENT.—The Administrator and the
20 heads of other appropriate Federal agencies shall jointly
21 establish a program for the purpose of conducting re-
22 search on aeronautical technologies that enhance United
23 States competitiveness. Such program shall include—

1 (1) research on next-generation wind tunnel
2 and advanced wind tunnel instrumentation tech-
3 nology;

4 (2) research on advanced engine materials, en-
5 gine concepts, and testing of propulsion systems or
6 components of the high-speed civil transport re-
7 search program;

8 (3) advanced general aviation research;

9 (4) advanced rotorcraft research; and

10 (5) advanced hypersonic aeronautical research.

11 (b) CONTRACTS AND GRANTS.—Contracts and grants
12 entered into under the program established under sub-
13 section (a) shall be administered using procedures devel-
14 oped jointly by the Administrator and the heads of the
15 other Federal agencies involved in the program. These
16 procedures should include an integrated acquisition policy
17 for contract and grant requirements and for technical data
18 rights that are not an impediment to joint programs
19 among the National Aeronautics and Space Administra-
20 tion, the other Federal agencies involved in the program,
21 and industry.

22 (c) ELEMENTS OF PROGRAM.—The program estab-
23 lished under subsection (a) shall include—

24 (1) selected programs that jointly enhance pub-
25 lic and private aeronautical technology development;

1 (2) an opportunity for private contractors to be
2 involved in such technology research and develop-
3 ment; and

4 (3) the transfer of Government-developed tech-
5 nologies to the private sector to promote economic
6 strength and competitiveness.

7 **SEC. 406. NATIONAL AERO-SPACE PLANE.**

8 (a) FINDINGS.—The Congress finds that—

9 (1) hypersonic flight will be critical to the con-
10 tinued contribution of aeronautics to the economic
11 and strategic interests of the United States in the
12 early twenty-first century;

13 (2) the data obtained through rocket-based
14 hypersonic flight experiments will not, by themselves,
15 reduce risk sufficiently to allow the development of
16 a single-stage-to-orbit, air-breathing plane; and

17 (3) a single-stage hypersonic research plane is
18 critical to the successful exploration of the
19 hypersonic flight regime and the timely realization of
20 a single-stage-to-orbit, air-breathing plane.

21 (b) HYPERSONIC RESEARCH PLANE ASSESSMENT.—

22 The Administrator shall conduct a study, through an inde-
23 pendent organization, of strategies that would optimize
24 the next phase of the National Aero-Space Plane program
25 by integrating with the rocket-based hypersonic flight ex-

1 periments the development, in the shortest possible time
2 frame, of a single-stage hypersonic research plane capable
3 of speeds in the Mach 10 to Mach 15 range or greater,
4 with the objective of providing data that would accelerate
5 the ultimate development of a single-stage-to-orbit, air
6 breathing plane. The Administrator shall report the re-
7 sults of the study to Congress no later than 6 months after
8 the date of the enactment of this Act.

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